



RESOURCE

The Arctic Water Resource Vulnerability Index: An Integrated Assessment Tool for Community Resilience and Vulnerability with Respect to Freshwater

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Description / Abstract

People in the Arctic face uncertainty in their daily lives as they contend with environmental changes at a range of scales from local to global. Freshwater is a critical resource to people, and although water resource indicators have been developed that operate from regional to global scales and for midlatitude to equatorial environments, no appropriate index exists for assessing the vulnerability of Arctic communities to changing water resources at the local scale. The Arctic Water Resource Vulnerability Index (AWRVI) is proposed as a tool that Arctic communities can use to assess their relative vulnerability-resilience to changes in their water resources from a variety of biophysical and socioeconomic processes. The AWRVI is based on a social-ecological systems perspective that includes physical and social indicators of change and is demonstrated in three case study communities/watersheds in Alaska. These results highlight the value of communities engaging in the process of using the AWRVI and the diagnostic capability of examining the suite of constituent physical and social scores rather than the total AWRVI score alone.

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